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Accounting and Costing Problems of a Gas Company

By E. J. TUCKER,

Assistant General Manager, Consumers' Gas Company of Toronto

(Before Toronto Chapter, March 21, 1934)

THE subject assigned to me this evening is "An Outline of the Accounting and Costing Problems of a Gas Company." If I believed that you expected me to say something which is new, useful and important, my mind would be clouded with apprehension. I prefer to believe that we are here for the purpose of becoming better acquainted, for informal discussion and for such exchange of experiences and ideas as is always an inspiration to those who work in a common field of activity.

The time allotted to me this evening is woefully inadequate for the discussion of the costing or accounting problems of an industry so widely extended as that of public gas supply. However, you will probably gain a better general appreciation of what those problems are if I confine my remarks to cover only the Consumers' Gas Company of Toronto in whose service I have spent all my business life thus far.

Legislation and Regulation

All gas companies in Ontario receive their powers by special act of the legislature or by supplementary letters patent under the Ontario Companies Act. The Consumers' Gas Company of Toronto was incorporated by the legislature of Canada on March 23, 1848, so that we shall celebrate our 86th birthday on Friday next. Prior to that date gas was supplied in Toronto mainly for the purpose of street lighting, by the city of Toronto Gas Light and Water Company. The late John Ross Robertson was fond of recalling the fact that gas was first supplied to Toronto on the day he was born, December 19th, 1841. Toronto was the eleventh city on the American continent to adopt gas for street lighting. Charles Dickens in writing of his visit to Toronto in May, 1842, stated that the town itself was full of life and motion, bustle, business and improvement. The streets were well paved and lighted with gas.

The franchise granted by the act of incorporation was a perpetual one and conferred upon the company the right to locate its pipes and equipment in the public streets and highways and to use and operate them for the purpose of supplying the city of Toronto with gas, in greater quantity, of better quality and at a cheaper rate than the same had been before supplied.

There are two general methods of regulating public utility rates—one is to limit the rates to be charged the public, leaving the utility free to distribute whatever profits it can accumulate, and the second is to limit the profits which may be distributed to the shareholders, leaving the utility free to set its own rates for service.

The second of these two methods was adopted in respect of The Consumers' Gas Company by the Government in 1848, and it was provided that the dividends payable on the capital stock were not to exceed ten per cent per annum. Although this rate may appear to us at the present time to be somewhat excessive, it must be borne

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in mind that at its beginning the success of the venture was by no means assured and the rate set probably represented the current return on a commercial risk. That rate of dividend was also in keeping with the provisions of Section 50 of the English Gas Works Clauses Act of 1847 which also stipulated that the profits to be divided were not to exceed ten per cent.

The amount of the capital was set at £25,000. but a further £25,000. was authorized if it was found to be necessary.

The company's area of supply as set out in the act of incorporation was confined to the city of Toronto. This area was enlarged by act of legislature on May 23, 1853, to include the village of Yorkville and other parts of the township of York adjoining the city. The limits were further enlarged in 1913 and again in 1931. To-day the company is rendering gas service in sixteen townships, towns and villages adjacent to Toronto.

It was not until the year 1887 that legislation was enacted which contained provisions specifically limiting the number and character and in certain instances the amount of reserve funds which the company could set up. Directions were also set forth as to the manner of dealing with the accounts.

Prior to the year 1887, the Consumers' Gas Company was as free in the conduct of its business and the disposition of its property, as any other corporation or individual, with one exception.

That exception, which was contained in the act of incorporation, restricted the power of paying dividends which was limited to ten per cent. per annum upon the paid-up capital.

Subject to this limitation only, the company could charge what it pleased for gas and set up what reserves it thought proper. Notwithstanding the enjoyment of this liberty, however, the records show that even up to the year 1887, the company was always amongst the gas undertakings on this Continent charging the lowest rates.

In the year 1887, application was made to the legislature of Ontario, for power to increase the capital stock of the company from \$1,000,000 to \$2,000,000. the new stock to be allotted to the shareholders, as had been usual, pro rata at par.

This last provision, however, was most strenuously opposed by the city of Toronto, principally on the ground that it would constitute a bonus to the stockholders, which, it was claimed, was not contemplated when the company obtained its charter. After many protracted discussions, the company finally considered it prudent, rather than withdraw the bill, to consent to a compromise, and by so doing, pursue a conciliatory course with the city, and preserve the harmonious relationship that had always existed between the city and the company.

A bill was made out in accordance with the terms agreed upon, and was ultimately passed by the legislature on April 23, 1887.

This Act, representing an expressed agreement between the city and the company, contained a number of clauses, the purpose of which was to automatically regulate the price of gas, to that, at all times, the consumers would be reasonably assured that the company's charges were equitable.

The increase of \$1,000,000. in the amount of capital was authorized, making the capital of the Company \$2,000,000.

It was provided that this new stock should be sold by public auction, and all surplus realized over the par value of the shares so sold, should be added to the rest or reserve fund of the company, until the same should be equal to one-half of the paid-up capital stock of the Company.

It was also provided that the company should maintain out of

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the earnings, another fund, to be called the plant and buildings renewal fund, to which fund must be placed each year, the sum of five per cent. on the value at which the plant and buildings in use by the company, stand in the books of the company, at the end of the then fiscal year of the company, and all usual and ordinary renewals and repairs must be charged against this fund.

Any surplus of net profit, from any source whatever, remaining at the close of any fiscal year of the company, after payment of dividend, at the rate of ten per cent. per annum, on the paid up capital stock of the company, and the establishment and maintenance of the rest or reserve fund, and providing for the plant and buildings renewal fund, must be carried to a special surplus account, and whenever the amount of such surplus is equal to five cents per thousand cubic feet, on the quantity of gas sold during the preceding year, the price of gas must be reduced for the then current year, at least five cents per thousand cubic feet to all consumers.

On the other hand, it was provided that if, in any year, the net profits of the company were not sufficient to meet the charges mentioned above, it would be lawful for the directors in their discretion to draw upon the reserve fund to the extent of the deficiency, and to restore any amounts so withdrawn from time to time from the reserve fund, out of the future earnings of the company.

The insertion of these clauses undoubtedly was designed for the benefit of the consumers and to assure them of their gas supply at the lowest possible cost. However, the company must be given credit for the fact that, in practice, it has been its uniform policy to reduce the price of gas voluntarily before the amount in the special surplus Account would have compelled a reduction.

Provision for Audit

In order to insure complete observance on the part of the company of the statutory requirements of this act, it was provided that an auditor appointed by the mayor of Toronto, should have right of access to the company's accounts for the purpose of verifying the annual statement. The city auditor has usually been designated for this purpose, and his very complete report has been submitted yearly to the mayor and city council, thereby safeguarding the interests of the consumers and the public.

On April 26, 1904, the corporation of the city of Toronto was authorized by the Ontario legislature, upon the consent of the rate-payers being obtained, to purchase stock or shares of the Consumers' Gas Company, and in the event of the city holding stock to the amount of a par value of \$10,000. or more the mayor was to be ex-officio a director of the company. The mayor of Toronto first took his seat on the Board of Directors early in the year 1905, so that, in addition to the yearly audit of the company's books and records by the city auditor, the interests of the consumers are further safeguarded by the presence of the mayor of Toronto on the Board of Directors.

Supplementing the audit carried on continuously by the company's own auditors, and the annual audit of the city auditor, there have been, from time to time, a number of special audits and investigations of the company's books and operations. From May, 1918 to October, 1925, a period of 7½ years, there were undertaken at the request of the city and with the consent of the company, no less than six of such investigations. Thus in that period of 7½ years the accounts and practices were examined twenty times.

At no time did the gas company object to these investigations

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and the consent of the company to this audit was embodied in a resolution of the board of directors in the following terms, "That Mayor Foster be permitted at the cost of the city to audit the books of this company for any periods in its history that he desires; also to make the fullest examination he may desire, as to the value of the company's properties and of the cost of producing gas, from the inception of the company's operations until the present time, or for such lesser periods as he may determine." In other words, from the time of the flood to the end of the world.

Now if anyone here knows of any concern whose records and accounting procedures have been subjected to as much scrutiny as has the Consumers' Gas Company's and with as little resulting criticism of its business practices or accounting procedures, I would like to hear of it.

I just want to say this, that should any of you be fortunate enough to obtain a commission to audit the Gas Company's books at some future time, you will have to invent a new color of ink and even then I don't know where you will place your checks.

The point I wish to emphasize here is that all this investigation has never revealed the slightest evidence of wrong doing or of any attempt on the part of the company to evade its statutory obligations. To quote from the report of the Ontario government's special auditor of 1930; "I am of the opinion that the company has been and is now manufacturing and supplying gas to the city of Toronto at prices in keeping with the agreement entered into with the city as contained in the Statute 50 Victoria (Ontario) Chapter 85, 1887."

General Accounts

The general accounting books of a gas company differ very little from the general accounting books of a commercial or industrial enterprise. The usual books are the general journal, the cash receipts journal, the cheque register, the voucher register, the general ledger and subsidiary ledgers.

There are several kinds of subsidiary ledgers among them are consumers' accounts receivable ledgers, accounts payable ledgers, plant ledger, repairs and maintenance ledger, earnings ledger, operating ledger, material and supplies ledger. The accounts contained in these ledgers are controlled by accounts in the general ledger.

The company's classification of accounts is arranged in a manner to secure the most satisfactory accumulation of data.

Time does not permit of any detailed description of the accounts or of the time-keeping and pay-roll methods in use, or of the procedures in accounting for stores and supplies, or of plant accounting, or of the system of dealing with accounts payable.

Volumes may be written on the various systems in use in handling consumers gas accounts and accounting for the revenue from gas and merchandise sales. We have the honor of serving some 170,000 consumers. The meters of every one of these consumers have to be read regularly once each month, which means that over 2,000,000 readings must be obtained each year, the same number of bills printed, made out, delivered and collected, and ledger and other records kept.

This tremendous amount of office routine requires that the office organization be so ordered that the operations can be performed regularly upon a pre-determined schedule and the whole work carried out in the most efficient and economical manner possible.

To obtain an even flow of work through the office, the city is divided into 24 geographical districts, so that one operation, such as meter reading, may be completed in one of the districts each working day.

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Other operations, such as bill delivering, posting the accounts and making out the bills, receiving the cash, are also performed in one of the districts each day in a continuous cycle.

As a means of promoting employee efficiency in the performance of these routine operations, we have made liberal use of extra incentive wage plans.

In a number of our operations we have adopted the premium plan of extra-incentive. This plan pays a bonus for time saved. A base wage is guaranteed, the bonus is paid for production above the standard of production set. All savings made by the employees go to the employees, the company making its saving in direct labor in bringing the production of all employees up to standard and in reduced overhead.

The following operations of the company lend themselves well to this type of bonus plan, because of the volume, represented by the large number of consumers and because of the repetitive nature of the work, as operations are repeated in cycle each month, viz.,

Meter Reading
Bill Delivering
Preparing Gas Bills
Ledgerkeeping (including sub-operations)
Collections.

As an example of the results obtained by the introduction of incentive plans let us take the department which prepares the gas bills.

Before the installation of the plan, eight operators with special Burroughs machines proved inadequate for the task. The present production per hour represents an increase of 42% over the production during the first month under the plan. The number of operators has been reduced from 8 to 5. Net decrease in labor cost to the company is 27%.

Cost of Service

By far the most important cost problem of a gas company is the ascertainment of the cost of service to the various classes of its consumers, and the equitable apportionment of that cost so that each class will pay for the service it demands, a sum of money approximating the actual cost of rendering that service.

An analysis of the operating expenses of a gas company will disclose the fact that there are certain costs common to all consumers, and which are incurred equally whether a consumer uses gas in large quantities, small quantities or uses no gas at all. Under the long established but economically faulty, flat or uniform rate for gas of so much per thousand feet, the consumer who uses little or no gas, escapes from the payment of his share of these costs, and the consumer who uses gas in quantities is unjustly required to carry all or most of the burden.

When costs are properly allocated, it will be found that, under a flat rate, approximately 70% of the consumers are given service at a price which fails to cover the full quota of the cost of that service.

The introduction in 1922 of the service charge form of rate by the company was an effort to make the rates charged for the various amounts of gas consumption follow more closely the cost to the company of supplying them.

There are probably a number of elements that should be taken into consideration in making rates for gas service, among them the cost of service, the value of the service to the consumer, and avoidance

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of discrimination, but of these, the "cost of service" is easily the most important.

It might be said that gas service costs the Gas Company \$1.00 per 1000 cubic feet. That would mean that it costs \$1.00 to furnish one thousand cubic feet of gas on the consumers premises for cooking, heating and other purposes.

This is certainly a very clear and simple statement of the average unit cost, but unfortunately it does not disclose much, unless the exact conditions under which the gas is being furnished are known. It is an overall average only. It may cost the Gas Company 50 cents. per 1000 cubic feet to serve one class of consumers, and \$1.50 per 1000 cubic feet to serve another class.

Cost for gas service cannot be equitably apportioned among all consumers on an average basis.

Calculation of Cost of Service

In order to ascertain the cost of gas service, it is essential to proceed along correct principles, so that the results may reflect correctly the effect of the several factors that create the cost. The larger the number of cost elements taken, the greater will be the accuracy, but at the same time, the computation will become more complicated. In order to avoid too great a complication, and to get practical results, the number of these elements is usually limited to four. These four elements in the cost of service now receive quite general recognition. They are:—

1. "Commodity Cost."

An item of cost which is directly proportional to the volume of gas used. This item is constant per 1000 cubic feet.

The commodity cost is the manufacturing cost, consisting of the items, materials and labor and expenses and repairs, directly entering into the production of gas. By dividing the annual cost by the volume of gas sold during the year, we arrive at the commodity cost per 1000 cubic feet of gas sold.

By multiplying the commodity cost per 1000 cubic feet by the number of thousand cubic feet consumed annually by a certain consumer, we get the annual commodity cost of the consumer as a part of his total cost.

2. "Manufacturing Demand Cost."

An item of cost which is proportional to the consumers' maximum composite daily demand on the manufacturing plant.

The demand cost is roughly equal to the cost (interest, depreciation, taxes and insurance) of the capital invested in the manufacturing plant.

The capacity of the manufacturing plant is determined by the maximum volume of gas that will be required in any one day. This is the total coincident maximum demand of all of the consumers for a day.

3. "Distribution Demand Cost."

An item of cost which is proportional to the consumers' maximum composite hourly demand on the distributing system, and consists of interest depreciation and taxes on the investment in that system.

The capacity of the distribution system is determined by the maximum volume of gas that will be required in any one hour. This is the total coincident maximum demand of all of the consumers for one hour.

It is obvious that the charges of interest, etc., accrue from the time capital is required for plant, and that these charges must be paid for by the individuals requiring the service. The most equitable

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distribution of these costs is in proportion to their demands, and independently of the volume of gas used. In fact, these charges must be paid for by the consumers even if no gas is used.

4. "Consumer Cost."

An item of cost which is caused by the mere fact that the individual is a consumer of the Gas Company. This item is independent of the amount of service required by the consumer, and is proportional to the number of consumers and is essentially alike for each.

There is a certain amount of money that must be invested by the Gas Company for every consumer individually, over and above the capital which is invested for the consumers collectively in the gas works and distribution system. A large part of this additional investment is occasioned by the mere fact that the consumer is connected to the system, and this part has practically nothing to do with the amount of gas consumed by the consumer, or with his maximum hourly or daily demands. For 97% of the number of consumers, this investment would be constant per consumer, therefore we have certain annual charges which are independent of the size of the consumer. Moreover, there are direct annual expenses, apart from the expenses caused by the capital investment, which also amount to substantially the same sum per consumer, whether he be a large one or a small one.

In general, these expenses are application and order department expense, setting and removing meters, locking and unlocking meters, testing meters, reading meters, delivering bills, keeping consumers accounts, collection expense, repairing services, repairing meters, and supervision of the above items. All such expenses should be distributed among the consumers in equal shares.

The object of the computation of the cost of service, is the ultimate equitable apportionment of that cost between the consumers.

The correct price for any service or commodity must be supported by a full knowledge of the weight and significance of all factors entering into its cost.

The form of rate now in force in Toronto was adopted only after a very comprehensive study of the cost elements involved and effecting a proper adjustment between the results of the cost analysis and the more practical aspects of rate making.

The rate conforms to the fundamental principles of sound rate making for public utility services, in that it is simple in form and therefore easily understood by the consumers; it is a fair rate in that it requires each class of consumer to pay its appropriate share of the costs of service; it is a promotional rate in that it encourages greater use of gas by present consumers and attracts additional business, by offering lower prices for larger consumption; it is a reasonable rate in that the return to the shareholders is little more than 6% on the amount subscribed by them to the capital.

Conclusion

In the limited time at my disposal it has not been possible to refer to all the matters which could be included under the title assigned to my address, but we have dealt with four specific kinds of problems, viz.,

Accounting problems arising from conditions imposed upon a Gas Company by statutory authority.

Problems which arise because of the public character of the company's business.

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Management problems with respect to carrying out some of the routine operations of the business.

And finally, cost accounting problems underlying the determination of the proper form of rates to be charged for the company's service.

I must acknowledge that from the sketchy outline I have just presented, you will gain very little that is of practical value to you, but I trust I have conveyed some idea of the special accounting problems of a public utility in general, and of the Consumers' Gas Company in particular.

Outline of the Accounting and Costing of a Transit Utility

By J. G. COULTHARD,

Chief Accountant, Toronto Transportation Commission

(Before Toronto Chapter, March 21, 1934)

TRANSIT service in urban areas or centres is a necessary public service best performed when the transportation company has an exclusive monopoly of all forms of transportation. Because of such monopoly the need is, therefore, apparent that positive regulation by competent authority is essential. While this was theoretically true in the early days of public transportation, under present conditions, street railway enterprises are far from holding monopolies, and are faced with ever increasing competition from privately owned motor cars.

Regulation

The purpose of regulations is to realize under monopoly, the safeguards provided in other enterprises by competition. However, the regulations imposed should not deteriorate into confiscatory legislation. Transit services must provide adequate facilities to all who apply, at reasonable rates, without discrimination.

The control of transit services under an Ontario charter, is exercised by the Provincial Government through an administrative body known as the Ontario Railway Board, but motor transit comes more directly under the regulations of the Department of Public Highways. All rates have to be approved and filed. An annual report of the year's operation on a prescribed form, has to be rendered, and for railways a report is required by the Dominion Government at Ottawa also on their prescribed form. These reports show the financial results together with statistics.

Transit Accounting

Transit accounting is a branch of general accounting, and no new principles are involved. In some ways the accounting of a transit utility differs little from that of any large business, but in many ways it is more elaborate and complete. It is generally recognized as being up to date, and certainly the methods are more uniform than in many other kinds of business enterprises. Application of principles to detailed requirements to the business give it a special character.

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With the aid of railway accounting officers, Federal and Provincial regulatory bodies prescribe systems and classifications generally uniform and complete throughout this continent. The classification of accounts outlines proper accounting treatment of construction costs, additions and betterments, and depreciation, which gives greater accuracy to the investment in the fixed assets. By proper treatment of capital to operations, a uniform significance to the figure for net revenue is given. It is provided that accounts shall be written up, posted to the general ledger, and balanced monthly.

The Classification

The classifications provide the following divisions:

Balance Sheet Accounts:

Assets:		Liabilities:	
100	Fixed Assets	200	Capital Stocks
	Investments		Long Term Debt
	Current Assets		Current & Accrued Liabilities
	Deferred Debits		Reserves
	Company Securities Owned		Deferred Credits
	Deficit		Surplus

Operating Property Accounts:

300

Income Accounts:

- 400 Operating Income
- Non-operating Income
- Income Deductions

Surplus Accounts:

500

Operating Revenue Accounts:

600

Operating Expense Accounts:

- 700 Way & Structures
 - Equipment
 - Power
 - Depreciation & Amortization
 - Transportation
 - Traffic
 - Administrative & General

Clearing Accounts

800

The accounts in the entire transit classification are always very carefully numbered, the groups having their individual group series following progressively, and so arranged that they can be again subdivided to conform to the magnitude of the business allowing for complete control. However, the series of accounts are at the same time so constructed that they can be readily understood by the men who have to use them in the shops, garages and operating divisions.

Operating Expenses

These are divided into groups, viz:—

Current Maintenance

Way and Structures:

- Track
- Buildings & Bridges
- Electrical Distribution System

Equipment:

- Rolling Stock
- Shop Equipment

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Power:

- Substation Buildings
- " Plant
- " Employees

- Transmission

Depreciations and Amortization:

- Current
- Deferred
- Amortization of Intangibles

Transportation:

- Trainmen
- Car Service Men
- " " Expenses

Traffic:

- Solicitation
- Advertising

Administration & General:

- Administrative Officers
- General Office
- Law Expenses
- Insurance
- Injuries & Damages

The above divisions have prescribed subdivisions generally into 100 primary accounts, but again each individual company will, for its own convenience and control, further subdivide with appropriate sub accounts, but always maintaining the identity of the prescribed account. The divisions follow departmental responsibility, and budgetary control follows along in a natural smooth course.

Cost Accounting

For a transportation enterprise engaged in providing a passenger service, the principle requirements are an accurate knowledge of the cost of the service expressed in cents per car or vehicle mile run, and the cost per vehicle hour. The basis of all costs is obtained from the operating costs as above outlined, and is used in conjunction with accurate records of the daily revenue mileage run and the daily hours of service performed. Other essential statistics are the daily number of passengers carried as well as the transfer passengers handled, and on an electric railway the electric energy consumption is kilowatt hours.

It is from these elements basic studies are made to work out such important items as the cost to operate passenger equipment of a given class on any given route. Accurate cost knowledge has proved to be of great value in the transportation industry during the last four years, as with the ever fading receipts, railway operating officers have of necessity had to see that not a mile of service was run unnecessarily. It is peculiar to transportation service that once a service is performed, it is irrevocably lost, a service which once provided cannot be placed on a shelf, if found to be not required, and pulled out again at a convenient time in useful and gainful service to the public.

Mileage, revenue and costs give the units of measurement supplying the ratio of cost to revenue.

Mileage

As mentioned above, vehicle mileage is accurately kept day by day, and in addition to its use in arriving at unit cost per mile and revenue per mile, this is of importance to the Mechanical Departments responsible for the maintenance of the equipment. The mileage of

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each separate piece of rolling stock and motor vehicle, is accumulated each day, the various kinds of maintenance, overhauling and lubrications being based on proper standards of mileage run. As each vehicle performs its allotted mileage, it is called in for the specific operation then due. Without this systematic procedure it would be next to impossible to keep so large a number of units performing efficiently all day long every day of the year.

Budgetary Control

In common with all other business, a transit utility needs efficient operation, close executive supervision and departmental co-operation. Budgetary Control appears to be the only way or plan which has proved to be effective in accomplishing these results. The budget to be complete should tie in with the Balance Sheet of the company, and the accounting records. It is not a collection of cost statistics or comparisons prepared merely as a matter of record.

The benefits which can be obtained from budgetary control are as follows:—

Gives a simple method by which an executive obtains direct control and supervision, and a proper knowledge of the financial position.

Is an effective way of saving money especially in the important item operating expenses.

Sets up standards of efficiency and develops co-operation between departments.

Develops right type of executive.

Forces a company to make annual review of all items of expenditure, bringing to light all unnecessary expenditures.

Latest Developments

The latest developments in transit accounting are in the field of omnibus operations and freight trucking.

The Public Service Commission of the State of New York have prescribed a Uniform System of Accounts for Omnibus Corporations effective January 1st, 1934. This system of accounts is very complete and will give the State accurate uniform knowledge of its bus system.

The Dominion-Interprovincial conference on Road Transport, met at Ottawa December 14th, 1933, and adopted this resolution:—

This conference endorses the principle that Common Carriers shall keep accounts and shall render returns to appropriate public authority as and when required.

This conference had special reference to freight transport by motor vehicles on the public highways in passing the resolution.

SCHOOLBOY HOWLERS

Answers which S. J. W., Nebraska, asserts were actually handed in.

"A blizzard is the middle of a hen."

"Cannibal is two brothers who killed each other in the Bible."

"Expostulation is to have the smallpox."

"A vacuum is a large, empty place where the Pope lives."

"To stop nose bleed stand on your head till heart stops."

"Elaine gave Launcelot an omelet before he started for the tournequet."

Labour Measurement Through the Bedaux Method

BY J. J. ARMSTRONG
The Bedaux Company, New York

(Before Hamilton Chapter, April 4, 1934)

THE average industrial executive who has not been intimately connected with an application of the Bedaux System pictures it merely as one of the better forms of wage incentives. A mental picture of this kind is only half developed as another, and just as important a function of "Bedaux," is that of measurement.

It is around this feature of measurement that I am building this short talk of mine tonight in an endeavor to emphasize to you gentlemen, who are perhaps better equipped to grasp it than any other single group, the aptness with which Bedaux can be used to control and predicate those elusive but important charges known as "Indirect," "Burden," "Overhead," etc., as well as the direct or productive charges.

In order that all of you may be better able to follow my statement and explanations, I am going to briefly outline the salient points of the Bedaux System and give you several simple definitions of the terms I may use. This I will do without too much detail for fear that you may feel similar, but not for the same reason, to the drunk who boarded a New York subway train and after swinging around on a strap for several miles, lurched to the vestibule and between hiccoughs, said to the guard "Where are we, conductor?". The guard replied that they were just pulling into Forty-Second Street and Seventh Avenue but the hero of our story said in a disgusted voice, "Don't bother with the details, what town are we in?"

History of Bedaux

Some twenty odd years ago, Mr. Charles E. Bedaux, in search of a quantitative value for human physical effort tested and rejected successive theories, until the correct basis was found in the relation of bodily strain to effort under any given set of conditions.

Innumerable experiments to find the correct amount of relaxation applicable to relative sequences of motions and frequency of repetition led him to establish his unit of Human Power Measurement which he called the "B."

Definition

Simply defined, the "B" is the amount of work a normal man would do in one minute when working at a normal rate of speed under ordinary conditions and availing himself of his full measure of relaxation.

Or more technically, the "B" is a fraction of a minute of work, plus a fraction of a minute of rest, always aggregating unity, but varying in proportion according to the nature of the strain.

Method of Application

To each operation in an industrial plant, through scientific time and motion study, B-Values are established. These "B" Values assign to the various operations a definite time value and are the management's key to the amount of time that should elapse for the

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completion of each task. Thus does Bedaux apply the yardstick to human effort, and we shall see later on how it can be best utilized.

The Bedaux base rate, expressed in cents per hour, is established for the various operations after a careful analysis as to relative skill, experience and responsibility required. A reasonable amount of work is expected in return for this hourly wage, and for all additional work, a premium is paid.

The number of Bs per hour (production multiplied by B Value per unit, divided by number of hours worked) is posted in each department daily as is also the amount of premium earned. In this manner can each operator discover daily if his performance is as good as any of his co-workers and here we have the Bedaux incentive. Regardless of the nature of the work, the number of Bs per hour accurately expresses relative effective effort.

Supervisors and indirect workers are paid premium on the average effective effort of their respective departments modified by excess costs and in this manner the Bedaux incentive is extended.

So much for the fundamentals.

Aid to Accountancy

An axiom of cost accounting is that all costs are a function of time. Interest, taxes, salaries of supervision, insurance and depreciation are wholly or in part proportional to time, so what unit is better applicable to their control or budgeting than a minute (of work) or the B.

A periodic recapitulation of the production of the various departments, expressed in Bs, can be very accurately used to determine and prediate all intangible charges in terms of a common unit, in place of the existing practice of using such units as dozens in one department, pounds in another and yards in a third with obvious confusion and inaccuracy.

Burden Distribution

Because the "B" does not fluctuate with changes in hours or money, burden absorption and distribution, if calculated on the B, can be made independent of economic and other changes. Suppose a department of 50 operators producing 80 Bs per hour in a 40-hour week were to be taken as an example. The amount of burden to be distributed would be based upon a weekly production of 160,000 Bs (50 times 40 times 80).

The labor market may rise, or male operators be replaced by less expensive female operators but the amount of burden absorbed does not change, or is not insufficient as is the case when labour costs measure distribution of burden.

A replacement of experienced operators by new untrained help, which would require 75 instead of 50 operators to run the department, would have no effect on burden absorption on the B basis as it would have on the labour hour basis.

In either of the above cases, the burden distribution would be dependent on the 160,000 Bs weekly and on nothing else, and as long as this production was held, a definite and accurate amount of burden absorption would take place.

Production Control

In this same department just mentioned, in the event that a shift in orders caused a change in the relative number of the various models in process, or even if the design of the product were radically altered, these same 160,000 Bs weekly could be expected and know-

PRESENTATION OF REPORTS FROM EXECUTIVE VIEWPOINT

ing the unit B Values of the new lines, expected unit production would be simple arithmetic.

Cost Control

B Values having been established for the various operations with the corresponding base rates fixing the value of the B, standard costs can be set up for all lines.

A weekly summary of the daily Posting Sheets, distributing lost time, B Hours below 60 per hour, re-work and incorrect base rates as excess costs, immediately determines the difference between standard and actual costs, and thus, besides cost determination, Bedaux by uncovering these excesses, results in a splendid cost control.

Assignment of Labor

The daily Posting Sheet, showing individual attainment in respect to all other employees, expressed in terms of a common unit, the B, immediately focuses attention on misfits and precludes the possibility of confining a quick nervous individual to the monotony of a slow-moving machine when a more fitting task, allowing higher earnings and more contentment can be assigned; or conversely, reveals a slow-thinking clumsy fellow running a high speed, complex machine.

In these ways and many others which time does not permit me to mention, the B can be used to control and measure as a common denominator the innumerable problems that present themselves in every day industrial life.

I have endeavored, without going into too much detail, to clearly explain the various phases of the application of Bedaux to industry but I will be quite willing to remain after the close of the meeting and answer all questions of those of you who wish further information or greater detail.

The Presentation of Reports from an Executive Viewpoint

BY J. J. McHARDY
Comptroller, Mercury Mills Ltd.

(Before Hamilton Chapter, March 21st, 1934)

SOME years ago it was my privilege to attend the meetings of one of your Chapters and what always impressed me most at those meetings was the fact that the attitude of most of those in debate was almost dictatorial to Management in general or, in other words, "We are the Cost Accountants, therefore, you should accept our reports in the form that we present them, because we know best what is good medicine for you." This attitude of course was encouraged by the fact that very few Managers attended the meetings, consequently there was very little, if any debate on the viewpoint of Management itself.

This condition I believe still exists, which is most regrettable and it is my opinion that your Society should do everything in its pow-

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er to encourage the attendance of Executives because there is much they could learn about cost principles and practice and there is much left for the average cost accountant to learn about the management and direction of business.

The presentation of reports is a subject possessing divergent views and a great deal depends on the Executive to whom the reports are made and the use he wishes to make of them and I must ask you to remember that there are many types of Executives, like there are many types of reports and likewise many types of cost accountants, and the best results will be obtained by a reconciliation among those three.

Types of Cost Accountants

First of all, let us analyze some of the types of Cost Accountants that I have met—

No. 1—is the enthusiast, usually a slave to theory and detail, produces voluminous detailed reports and figures, always a little too late to be of the most value. He wants to talk to the Management at all times of the day and night, assumes that the Manager knows next to nothing about Cost Accounting and proceeds to instruct him in all its ramifications. This type of man is a “pest.”

No. 2—This type is the one who studiously collects all manner of details and facts, both interesting and uninteresting, and just as studiously keeps them to himself, only handling them out when pressed. This type is worse than No. 1 because usually he fails to collect the most essential data and is the cause of delay when really useful information is required.

No. 3—This individual to my mind is the nearest to an ideal Cost Accountant that I can portray. He possesses a personality of inspiring confidence, has courage enough to report fearlessly and quietly the results of his work, has sufficient experience in distinguishing the essential from the non-essential, has the ability to change his viewpoint with changing conditions and possesses sound health and is prepared to work 15 hours a day cheerfully when occasion demands.

I believe No. 3 is the type that will be the most successful in modern business.

Of course there are other types but I have chosen what I consider to be three examples known to us all.

Types of Executives

Now let us consider a few types of Executives. This of course covers a wider field because everyone who is privileged to have an office to himself considers himself an Executive. I must exclude a great many in that category as time will not allow of a description of all types I have met, so I will confine my remarks to the Management Executive who after all is the one of most consequence because he is usually the one who shows us “The Gate” when we misbehave, or when economies are to be made.

I am going to deal with the four best-known types which I place in the following order—

- 1—The Technical Manager
- 2—The Salesman Manager
- 3—The Accountant Manager
- 4—The Ideal Manager.

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- No. 1—The TECHNICAL type is usually an enthusiast of the product itself. His training began in the factory, he has an intimate knowledge of the machinery and the materials used, and can discuss them freely. He enthuses readily over any new machine or product and in fact is so sure of the product and the quality that conflict ensues with the sales department over the prices obtainable. As a rule he dislikes detail and consequently avoids the Accountants until the day following the closing of the month when he expects the results immediately and cannot understand why so much bookkeeping is necessary and invariably has little faith in the costs.
- No. 2—The SALESMEN Manager. This type is predominant in this country, being promoted through the various stages because of his success as a salesman and Sales Manager. He usually possesses a forceful and dynamic personality and is, in nearly all cases, an optimist. Sales volume is his weakness; he can, through his training, resort to many ingenious ways of promoting sales, is a good judge of advertising and mass psychology; he loathes system and calls it "red tape" and like his Technical brother, has little respect for the Accounting and Costing. This type, although successful in prosperous times, fails to meet the requirements of business when depression arrives because he lacks a true perception of the economics of business.
- No. 3—The ACCOUNTANT Manager. The training of this type of Manager usually produces the critical individual. He can and does tell everybody what is wrong but his lack of knowledge of selling, factory management and purchasing, etc., precludes him from giving sound judgment on "how the wrongs should be righted." Their criticisms as a rule lack construction, especially when directed at selling and their knowledge of the product itself must be extremely limited. They worry unduly over detail and are too satisfied with the production of figures to give much thought to the constructive interpretation of figures, and reports. Systems and figures are their failing and they do not pay enough attention to the human side of their problems. Economically they are good managers but invariably lack vision and have little imagination.
- No. 4—The IDEAL Manager. My conception of a real Manager is as follows:—
- (a) One who by training and experience or both has an intimate knowledge of the economics of business principles and practice.
 - (b) One who has the ability to separate the essential from the non-essential.
 - (c) One who has the courage to put into practice his convictions and accept responsibility for them.
 - (d) One who has the ability to choose the right men for his assistants.
 - (e) One who can command the respect by his actions of his employees.
 - (f) One who can organize his work and distribute it so that he is not overburdened with detail.

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- (g) One who will insist on his subordinates accepting responsibility and handling their own problems.
- (h) One who is big enough to accept advice from his assistants.

The Ideal Manager has not yet been born but I have in mind one in particular who comes very close to it—who was appointed, having had no previous experience in manufacturing or the industry concerned, and who has since made an outstanding success because he possessed the qualifications I have just enumerated plus a great personality and an intimate knowledge of the art of merchandising.

Having dealt with the various types of Accountants and Managers and pointed out some peculiarities of both, I now come to the question of the PRESENTATION OF REPORTS from the Executive point of view.

In the first place, reports have one main purpose and that is to assist the Management in directing the business. These reports should be so planned to suit the individual who is doing the "directing" because he is the one who is responsible for piloting his ship through all weathers. Therefore you must give him the tools he is best able to use and do not burden him with instruments he cannot handle, however much you like them yourselves.

There are, of course, varying types of reports and I cannot enumerate them all but I will give you a few of what I consider to be the most important for day to day management.

Reports

The Commodity Report—This should be a daily report of the price movement of the principal commodities used and should be made by the Purchasing Agent, who should make it his business to carefully study the price trends and advise the Management of his findings. This report I consider to be of primary importance, especially under existing conditions and I am going to ask you to remember that any large institutions have become bankrupt through poor purchasing. This report should also be accompanied by a foreign exchange report when the commodities are purchased abroad.

Production Report—This is of vital importance, especially so when operating on a Budget System because this is so tied up with the Finances and Inventories that wide variations may cause much embarrassment, particularly if you are heavy borrowers from your bankers. This also should be a Daily Report if possible but not under any circumstances should it be allowed to run over a period of a week. Unit production is usually sufficient for this report but where Unit Costs are known, it is as well to show the Dollar Value.

Sales Report—This report should show both Orders and Shipments in both Units and Dollar values in comparison with your Budget, or failing a Budget, in comparison with similar periods in either a previous year or month.

Labour Report—This can be either a weekly or bi-weekly report and should be broken down by departments, the Direct in relation to the Indirect in terms of percentages. Also I consider it important to include the Unit Labor Cost. Much of course depends on the method of payment employed. In some cases it is possible to get a daily report of the performance of each individual. This, however, is intended more for the Foreman than the Management.

Purchases Report—This report should be made daily showing both Contracts and Specified Orders with the expected delivery date. This

PRESENTATION OF REPORTS FROM EXECUTIVE VIEWPOINT

gives the Management a daily notice of his commitments and is of much importance.

Collections & Disbursements Report—This also is a daily report, showing the approximate Receivables and the amount collected. This might also show any Bad Debts incurred together with the names of the accounts concerned, also the amount of the disbursements made.

Bank Report—This is merely a statement of the Cash on Hand, the Balance in the Bank or the amount of the Bank Loan.

The foregoing I think covers the principal tools used by managers for day to day reckoning. Time will not permit me to deal with the usual weekly or monthly reports but they should be sufficient to provide the Management with vital facts only and all other reports should be for the use of the departments concerned who in turn should see that their reports are sufficient to enable them to intelligently discuss their phase of the operations, when required to do so.

The Financial Reports I consider additional to those I have mentioned but even these should be so drawn up to be readily understandable by the Management. Let your reports be as simple as possible. They should be as few as possible, commensurate with your business, cover the vital facts, be accurate and never present reports that do not reconcile with each other.

Changed Conditions Raise New Problems

In conclusion I should like to say a few words about the changed conditions under which we are all operating. The last three years have brought about many changes in methods, attitude and thought. During those years you have doubtless come to realize that the day has passed when one could figure their costs in terms of Labor, Material and Burden and then add so much for profit and say that is my selling price. Today selling prices are fixed by the price obtainable, which more often than not do not allow for such items as Depreciation, Obsolescence, Selling, Administration and Financial Expense. This condition has called for a much more scientific management and costing and I am inclined to the belief that the day is still far distant when those old conditions will return, if ever. Consequently only those who are prepared to face these facts, prepare themselves for it and act accordingly can survive. This applies to both Accountants and Managers.

This condition demands constant study and an immense amount of hard work. Executives can no longer afford to come to their offices in the morning, deal with their mail and then proceed to the Golf Club for the rest of the day. Business is faced with new problems demanding a complete overhauling of existing methods and in some cases a re-building of their organizations and we might at this stage ask ourselves the question—"What type of organization would I build if it were my job to do the building?" My answer would be something like this—

- 1—One whose quality of product is so good and yet cheap in price that it will always find a ready market.
- 2—One with adequate working capital to finance its turnover.
- 3—One with a Management competent and frank, one to which one can say what is on one's mind without fear of losing their job. One that is sensitive to merit so that its employees can advance.
- 4—One that rewards its labor with as much as possible, not as little as possible.
- 5—One that people would like to put their savings into.
- 6—One that provides steady work for its employees.

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Necessity for Leadership

Overshadowing everything else, there must be in every successful business a true leadership. This means that there must exist in every business a spirit of human interest that makes an Executive a constant student of the conditions under which each subordinate executive works, seeking to provide every facility possible to place everyone in a position to do his job with the greatest amount of success. It also includes a real fixing of responsibilities, a true delegation of authority and greatest of all, a continual process of building men.

There are doubtless many of you who feel that I have failed miserably in presenting the subject I started, but the point I have been trying to make is

"that it all depends on the Management and their requirements and the individual making the reports and that there is no golden rule for this subject."

TARIFF and TAXATION

TARIFF BOARD

The Tariff Board, sitting on Appeals on the 27th July, 1934, under the provisions of Part II of the Tariff Board Act, has ruled, on the same date, as hereunder:—

In the matter of Appeal Number 38, by the Mantle Lamp Company of America, Inc., Chicago, against the value for duty purposes fixed by the Department of National Revenue on Kerosene Mantle Lamps and parts, imported into Canada: Appeal dismissed.

EDGAR BOURNIVAL,
Registrar of Appeals.

Ottawa, 27th July, 1934.

The Tariff Board, sitting on Appeals under the provisions of Part II of the Tariff Board Act, has ruled, on the 26th July, 1934, as hereunder:—

In the matter of Appeal Number 29, by The Canadian West Indian League, Montreal, from the ruling of the Department of National Revenue classifying Palestine Oranges under Tariff Item 101b, when transhipped from Port Said: Appeal Dismissed.

In the matter of Appeal Number 35, by Messrs. Godfrey & Corcoran, Toronto, on behalf of Mr. Julian Sprague, from the ruling of the Department of National Revenue respecting the amounts of discount allowable on Electrical Condensors in computing value for duty purposes: Appeal dismissed.

In the matter of Appeal Number 36, by Mr. A. W. Neill, M.P., from the ruling of the Department of National Revenue that Anthracite Coal is not of a class or kind produced in Canada and, therefore, exempt from the application of special or dumping duty: Appeal dismissed.

Ottawa, 27th July, 1934.

TARIFF AND TAXATION

The Tariff Board, sitting on Appeals on the 27th July, 1934, under the provisions of Part II of the Tariff Board Act, has ruled, on the same date, as hereunder:—

In the matter of Appeal Number 36, by the Mantle Lamp Company of America, Inc., Chicago, against the value for duty purposes fixed by the Department of National Revenue on Kerosene Mantle Lamps and parts, imported into Canada: Appeal dismissed. Ottawa, 27th July, 1934.

DEPARTMENT OF NATIONAL REVENUE

Departmental Rulings

Dolls' clothing, including hats, stockings and shoes, which are designed for use as playthings by children, and which are not adapted for use as infants' wearing apparel. Tariff item 624a as toys.

This ruling is effective on and after the 23rd May, 1934.

Small blankets and other bedding for dolls' beds or dolls' carriages, which are designed as playthings for use by children, and which are not adapted for practical use. Tariff item 624a as toys.

This ruling is effective on and after the 23rd May, 1934.

Furniture pulls and knobs, per sample, without bolts, and such pulls with bolts embedded or otherwise permanently secured therein. Dutiable according to material and finish.

Separate bolts and nuts, of iron or steel, coated or not. Tariff item 430.

The title of the magazine formerly known as "Producer" (Official Organ of American National Live Stock Association), as listed under tariff item 184c on page 10 of Appraisers' Bulletin No. 4176, has recently been changed to "American Cattle Producer."

CURRENT VALUES FOR DUTY—(CLASS B).

Applicable to Points in Ontario and East Thereof Plums & Prunes, Pears, Cantaloupes, Etc., Peaches

By an Order in Council passed under Section 43 of the Customs Act, the Honourable the Minister of National Revenue was authorized to fix the value for duty of Plums & Prunes, Pears, Cantaloupes, Muskmelons, Honey Balls, Casabas and Honey Dews, and Peaches, and he has, under such authority, fixed the value for duty thereof at the following advances on the true invoice value if in Canadian funds, or its equivalent in Canada funds, converted at the rate of exchange on the date of shipment, including all charges up to the point of direct shipment to Canada, when imported into ONTARIO and EAST THEREOF, during the periods specified:

	Per lb.	From	Until
Plums and Prunes	1¼c	30th July	31st October
Pears	1¼c	13th August	31st January
Cantaloupes, Muskmelons, Honey			
Balls, Casabas and Honey Dews	4 c	13th August	12th October
Peaches	1¼c	1st August	12th October
(All dates inclusive)			

when entered under the Intermediate or General Tariff.

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In the case of goods shipped on consignment without sale prior to shipment, the value for duty shall be the value as sold for home consumption at the time and place of direct exportation to Canada converted into Canadian funds at the rate of exchange on the date of shipment, plus the above advances.

Provided that the value for duty shall in no case be less than the value as sold for home consumption at the time and place of original shipment plus all charges to the point of direct exportation to Canada, converted into Canadian funds at the rate of exchange on the date of shipment to Canada, plus the above advances.

The provisions of Section 6 of the Customs Tariff Act to apply, and goods shipped on consignment without sale prior to shipment will be subject to the same special duty as if the goods had been sold prior to shipment at aforesaid home consumption value.
Ottawa, 23rd July, 1934.

Regulations in Customs Memoranda No. 1277B of the 2nd May, 1904, and No. 1443B of the 4th November, 1907, are Hereby Canceled and the Following Regulations are Substituted Therefor

Donations of Clothing and Books for Charitable Purposes

Tariff Item 690 provides for the entry free of Customs duty of "donations of clothing and books for charitable purposes."

The said Tariff provision does not apply to gifts of clothing and books sent to persons in Canada who are fairly able to pay Customs duty thereon without hardship or embarrassment. Collectors and other Customs officers concerned are directed to use fair and reasonable discretion in permitting duty free entry of gifts of clothing and books sent from abroad to persons in straightened circumstances, or to charitable institutions or to responsible persons or societies engaged in charitable work, for distribution to persons in need and lacking adequate means of support.

In accordance with the Customs Act all such importations are required to be described on the face of the Customs entry in the words of Tariff Item 690 above quoted.

Gifts of Clothing Sent to Pupils Attending Schools in Canada

Gifts of clothing sent by friends or relatives to pupils from abroad who are attending schools or institutions of learning in Canada for the personal use of such pupils and not for sale may be permitted entry without payment of Customs duty, provided a certificate from the principal or other head official of the institution, in the form hereunder, is attached to the entry:—

"The clothing covered by this entry is a gift from
(donor)
to, a pupil from abroad who is a student in
(pupil)
.....
(name of school or institution of learning)
.....
(Signature of principal or other head official)
.....
(Official status)
.....
(Place and date)

Donations of Worn Clothing Sent to Settlers

Gifts of worn clothing sent by friends abroad to settlers in Canada for their own use may be admitted duty free, provided a certificate

TARIFF AND TAXATION

from the settler, in the form hereunder, is attached to the entry:—

"I hereby certify that I came to Canada as a settler in the.....
(month)

of, that I have, therefore, not resided in Canada for five
(year)

years, the length of time required to establish domicile in Canada,
and that the worn clothing covered by the attached entry has been
sent to me as a gift by.....of.....

(donor) (place of residence abroad)

and is for the personal use of myself and family.

.....
(Signature of settler)

.....
(Address)

.....
(Place and date)

Ottawa, 30th July, 1934.

Regulations Concerning Small Tools Made by Manufacturers or Producers for Own Use and Not for Sale

The Honourable the Minister of National Revenue has been pleased to establish the following regulation under authority of Sections 87 and 99 of the Special War Revenue Act:

Effective July 2nd, 1934, on tools and dies and similar goods made by manufacturers for their own use, where similar tools are not sold, the tax will be held to apply on the basis of the cost of materials used, plus labour at the rate of \$1.25 per hour, for overhead and profit.

A copy of this Circular is to be mailed to all manufacturers operating machine shops and tool rooms wherein goods are made for their own use and not for sale. Lists should be maintained showing particulars in connection with the despatch of the Circular.

Ottawa, 30th July, 1934.

Adverting to Memorandum No. 39, Supplement N, dated June 15th, 1925, and to the Consolidation of the Consumption or Sales Tax Regulations of 1929, Section 11 is cancelled under authority of Section 95, Subsection 3, of the Special War Revenue Act, insofar as it concerns small sawmillers, and under the provisions of Section 95, Subsection 2, and Section 99 of the Special War Revenue Act, the following is substituted therefor:

"Small Sawmillers, selling exclusively by retail and whose total sales are not in excess of \$3,000.00 per year, are classed as exempt from accounting for consumption or sales tax on their sales."

Ottawa, 30th July, 1934.

The Honourable, the Minister of National Revenue has been pleased to establish the following Regulation under authority of Sub-section 6 of Section 80 and Section 99 of the Special War Revenue Act;

Importations of goods enumerated in Customs Tariff Item 105 (e) are to be subject to the excise tax of one (1) cent per pound on sugar, syrups or substitutes therefor, and one-half ($\frac{1}{2}$) cent per pound on glucose or grape sugar according to the quantity of any such materials contained in the goods enumerated in the said Customs Tariff Item, with effect from August 1st, 1934; provided that goods bona fide in transit or in bond in Canada on that date may be entered at Customs without the imposition of the said tax.

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Importers will be required to furnish to the Collector of Customs and Excise at the Port of Entry, on presentation of their entries, a declaration from the manufacturer or exporter of the goods, in a form similar to the attached, showing the sugar, syrup and/or glucose content of the imported goods.

If the aforementioned certificate cannot be produced at the time of entry, the goods may be entered for consumption upon payment of the tax at the rate of one (1) cent per pound on the net weight, subject to adjustment by refund on production of the said certificate.

The special excise tax of three per cent on the customs duty paid value will continue to apply in addition to the excise tax herein referred to, except that the rate of one and one-half per cent shall apply to all goods imported which are entitled to entry under the British Preferential Tariff or under trade agreement between Canada and other British countries.

Application of the Excise Tax to the Content of Sugar, Syrups and/or Glucose in Imported Articles

Declaration and Undertaking to be Given by Foreign Manufacturers and Exporters

I, of the
 (Officer of company) (Name of Company)
 of do hereby declare on its behalf that the
 (Place)

following is a correct statement to the best of my knowledge and belief of the sugar, syrups and/or glucose content of the undermentioned goods manufactured and/or sold by it and to be exported to Canada, the stated percentage of sugar, syrups and/or glucose content being calculated in each separate shipment on the net contents of the packages.

Brand and Mark	Description of Goods	Percentage of sugar syrups and/or glucose Content

In consideration of the admission of the above mentioned goods into Canada at the respective declared percentages of sugar, syrups and/or glucose content without sampling of each consignment, but subject to occasional sampling for official test, I hereby undertake on behalf of the said that due notice will be given

(Name of Company)

to the Commissioner of Customs at Ottawa, Canada, before the composition of the goods is altered in any detail.

.....
 (Signature)

Ottawa, 31st July, 1934.

Value of Fire Brick from the United States

For the present and until otherwise ordered, Fire Brick covered by the Refractories Industry Code under the National Recovery Act, may be allowed entry for regular duty purposes on the value under the Code at the basing point for the product established under the Code nearest to delivery point in Canada, although shipped from other points.

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The value for special or dumping duty purposes at the place of shipment will be upon the basis of the price at the said nearest basing point for the product, plus all rail freight to destination in Canada, less the freight from shipping point to destination.

In cases where the selling price f.o.b. place of shipment to the purchaser in Canada is higher than the nearest basing point value by reason of a lesser freight rate from mill to destination than from this basing point for the product to destination, the value for duty may not be less than the selling price to the purchaser in Canada, but special duty will not apply unless the laid down cost to the importer at delivery point in Canada is less than the laid down cost at such delivery point when shipped from this basing point.

Invoices may show in the fair market value column the fair market value at the basing point nearest to delivery point in Canada, and will require to show as a notation thereon the basing point, the freight from basing point to delivery point and also the freight from mill shipping point to delivery point.

The foregoing becomes effective for shipments on and after the 1st August, 1934.

Ottawa, 3rd August, 1934.

Grapes

By an Order in Council passed under Section 43 of the Customs Act, the Honourable the Minister of National Revenue was authorized to fix the value for duty of Grapes, and he has, under such authority, fixed the value for duty thereof at the following advance on the true invoice value if in Canadian funds, or its equivalent in Canadian funds, converted at the rate of exchange on the date of shipment, including all charges up to the point of direct shipment to Canada, when imported during the period specified.

	Per lb.	From	Until
Grapes	1c	27th August	31st October
		(Both dates inclusive)	

when entered under the Intermediate or General Tariff.

In the case of goods shipped on consignment without sale prior to shipment, the value for duty shall be the value as sold for home consumption at the time and place of direct exportation to Canada converted into Canadian funds at the rate of exchange on the date of shipment, plus the above advance.

Provided that the value for duty shall in no case be less than the value as sold for home consumption at the time and place of original shipment plus all charges to the point of direct exportation to Canada, converted into Canadian funds at the rate of exchange on the date of shipment to Canada, plus the above advance.

The provisions of Section 6 of the Customs Tariff Act to apply, and goods shipped on consignment without sale prior to shipment will be subject to the same special duty as if the goods had been sold prior to shipment at aforesaid home consumption value.

Friend—Say, Bill, why do you always slap your horse on one side,
Teamster—I figure if I get one side going, the other is pretty sure to follow.

* * *

"Do I really need brushing off?" asked the passenger in the Pullman.

"Does you!" exclaimed the porter, with great emphasis. "Boss, I'se broke!"

Manufacturing in Canada

(From a report of the Dominion Bureau of Statistics)

THE downward trend in manufacturing activity begun in the fall of 1929 continued with increasing force in 1932. The output of manufactured products was valued at \$2,126,194,555, a decrease of \$572,267,307 or 21.2 per cent as compared with 1931 and a decrease of \$1,903,176,785 or 47.2 per cent as compared with 1929. Employment also declined during the past few years. The number of persons engaged in manufacturing dropped from 694,434 in 1929 to 557,426 in 1931 with another severe decline in 1932 to 495,398. Since 1929 the number of persons employed declined by 199,036 or 28.7 per cent. Salaries and wages paid and value added by manufacture both registered sharp declines from the record attained in 1929 as the following table shows.

	PERCENTAGE DECREASE			
	1930 compared with 1929	1931 compared with 1930	1932 compared with 1931	1932 compared with 1929
Employees	- 7.2	-13.5	-11.1	-28.7
Salaries & wages paid	- 9.5	-15.2	-19.0	-37.8
Gross value of products	-14.9	-21.3	-21.2	-47.2
Value added by manufacture	-11.8	-16.3	-20.6	-41.4

The large decrease in the number of employees in 1931 and 1932 is not however, entirely due to the decline in manufacturing production. The decrease is in part due to the change in method of computing the average annual employment of wage-earners. Between 1925 and 1930 the average was obtained by summing the averages of individual plants, based on the number of months in actual operation and not by dividing by twelve the sum of the monthly employment figures. For example, if a plant operated only during three months of the year with an employment of 100 persons the first month, 125 the second month and 75 the third month, its average annual employment was taken as 100 (300÷3); the same as that of another plant which operated the whole year with an average employment of 100 persons per month. In 1931, however, a change was made to the old method, whereby the aggregate of the monthly figures is divided by 12. This method gives the man year that each plant operates. The change in method, therefore, affects the average annual employment as well as the average wages paid in seasonal industries, such as fruit and vegetable canning, fish canning, sawmills, etc.

Provinces where seasonal industries predominate, therefore, show a proportionately greater decrease in the number of employees in 1931 and 1932 as compared with the decrease in the salaries and wages paid, while industries that operate throughout the entire year are not affected by this change.

All groups reported decreases in the number of employees, salaries and wages paid and gross value of production. The only exceptions being central electric stations with an increase of five per cent in the gross value of production and the chemical group with an increase of .6 per cent in the number of employees. Of the major industrial groups the animal products and the textile industries suffered the least from the depressed business conditions prevailing in 1932. Com-

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pared with the previous year, the animal products group reported a decrease of 2.6 per cent in the number of persons employed, 10.4 per cent in the amount paid out in salaries and wages and 18.1 per cent in the gross value of products, while the textile industries reported a drop of 3.2 per cent in the number of persons employed, 11.5 per cent in the salaries and wages paid and 13.5 per cent in the value of products. The "iron" and "non-ferous metal" groups, however, reported the greatest decline in employment, salaries and wages paid and gross value of production, as the following table shows.

	Percentage Increase or Decrease in Number of Employees	Salaries and Wages Paid	Gross Value of Products
CANADA	-11.1	-19.0	-21.2
Prince Edward Island	- 2.0	-10.4	-13.9
Nova Scotia	-18.9	-24.7	-28.8
New Brunswick	- 8.5	-16.4	-14.0
Quebec	-10.8	-19.2	-21.3
Ontario	-11.4	-18.3	-21.6
Manitoba	- 8.0	-21.3	-18.9
Saskatchewan	- 8.7	-15.3	-18.4
Alberta	- 5.3	-16.3	-19.2
British Columbia and Yukon	-14.3	-22.1	-20.0
ALL GROUPS	-11.1	-19.0	-21.2
Vegetable products	- 6.8	-11.3	-13.4
Animal products	- 2.6	-10.4	-18.1
Textile and textile products	- 3.2	-11.5	-13.5
Wood and paper products	-11.4	-19.7	-23.7
Iron and its products	-23.4	-31.9	-39.7
Non-ferrous metal products	-22.4	-28.9	-28.2
Non-metallic mineral products ..	-18.3	-24.0	-18.5
Chemicals and chemical products ..	6	- 4.3	- 9.7
Miscellaneous industries	-12.9	-21.7	-26.8
Central electric stations	- 9.5	-11.6	5.0

Manufacturing establishments reporting in 1932 numbered 24,544. Of these, 9,844 were located in Ontario, 7,851 in Quebec, 1,643 in British Columbia and Yukon, 1,404 in Nova Scotia, 970 in Manitoba, 943 in Alberta, 841 in New Brunswick, 774 in Saskatchewan and 274 in Prince Edward Island. These plants represented a capital investment of \$4,741,255,610 in fixed and working capital; they furnished employment to 495,393 persons who were paid \$505,883,323 in salaries and wages. They also produced goods with a selling value at the factory of \$2,126,194,555 and spent \$955,968,683 for materials, leaving the value added by manufacture at \$1,170,225,872. It should be remembered that the value added by manufacture does not represent the manufacturers' profit. The value added by manufacture is obtained by subtracting the cost of the materials from the value of the products. The difference represents the value added to the raw materials by labour. It is this difference which the employer of labour uses to pay for the labour itself, the overhead expenses, profits, etc. Compared with the previous year, there was a decline of \$304,355,979 in the value added by manufacture.

The manufacturing industries of Canada are concentrated largely in the provinces of Ontario and Quebec, although the Western Provinces are beginning to assume increasing importance. Ontario is the dominant manufacturing province of Canada. In 1932 with only 40.1 per cent of the establishments, it employed 45.2 per cent of the

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capital, 48.3 per cent of the number of employees and produced 48.4 per cent of the entire output.

As mentioned above, the number of persons engaged in the manufacturing industries of Canada in 1932 totalled 495,398. Of these, 95,070 were salaried employees who were paid \$164,695,605 in salaries and 400,328 wage-earners who were paid \$341,187,718 in wages. In 1932 the average salary was \$1,732 and the average wage was \$852. Compared with the previous year, there was a decrease of \$140 in the average salary and \$105 in the average wage. In addition to the payments of salaries and wages, the fish cannery paid \$477,714 to 3,439 inside piece-workers who do not form part of the regular working force, while \$101,674 was paid to outside piece-workers, all of whom were employed in the textile group of industries.

From statistics of the forty leading industries it may be seen that the pulp and paper industry again exceeded all others in the gross value of production. Other leading industries in order of their importance were.

Rank in 1932	Industry	Rank in 1931
1.	Pulp and Paper	1.
2.	Central Electric Stations	2.
3.	Slaughtering and Meat Packing	3.
4.	Flour and Feed Mills	5.
5.	Butter and Cheese	6.
6.	Non-Ferrous Metal Smelting	4.
7.	Petroleum Products	8.
8.	Printing and Publishing	11.
9.	Bread and Other Bakery Products	12.
10.	Electrical Apparatus and Supplies	7.

In salaries and wages paid, which is probably a better index of the importance of an industry, the order of the leading industries is materially changed, Pulp and paper comes first in this category too. The leading industries were as follows.

Rank in 1932	Industry	Rank according to Gross Value of Products
1.	Pulp and Paper	1.
2.	Printing and Publishing	8.
3.	Central Electric Stations	2.
4.	Railway Rolling Stock	21.
5.	Electrical Apparatus and Supplies	10.
6.	Bread and Other Bakery Products	9.
7.	Printing and Bookbinding	23.
8.	Hosiery and Knitted Goods	12.
9.	Clothing, women's, Factory	13.
10.	Castings and Forgings	26.

Principal Statistics Compared for 1931 and 1932

	1931	1932
Establishments	No. 24,501	24,544
Capital Invested	\$ 4,961,312,408	4,741,255,610
Average capital per establishment \$	202,494	193,174
Employees on salaries	No. 99,798	95,070
Salaries	\$ 186,810,794	164,695,605
Average salary	\$ 1,872	1,732

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Employees on wages	No.	457,628	490,328
Wages	\$	437,734,767	341,187,718
Average wage	\$	957	852
Outside piece-workers	No.	1,035	762
Payments to piece-workers	\$	159,194	101,674
Cost of materials	\$	1,223,880,011	955,968,683
Average cost of materials per establishment	\$	49,952	38,949
Value of production	\$	2,698,461,862	2,126,194,555
Average value of products per establishment	\$	110,137	86,628
Value added by manufacture ...	\$	1,474,581,851	1,170,225,872
Average value added by manufacture per establishment	\$	60,185	47,679

Distribution Cost Accounting

By GEORGE PRICE ELLIS, C.P.A.

(Reprinted from The Certified Public Accountant)

ACCOUNTING has a function under the codes which has not so far been stressed. The "police" function, which is immediate and vital, has been pointed out. The big opening for production-cost analysis is clear. But accounting aid in achieving economies in distribution has hardly been noted. Yet the course of NRA, in spite of the emphasis upon production, is marketwise. Ultimately, code government must be appraised from the market side.

For reasons largely historical, distributoin has not had in this country the concentrated study which has been given to production. It was not previously thought essential to study it. In the days before the vast credit-banking structure, production was for self-contained local markets. Expansion merely enlarged the market area, without changing its character or its structure. Came the industrial development after the civil war, paralleling reconstruction in the south and the occupation of the western plains. Both afforded a seemingly limitless demand for the growing bulk of industrial output. The domestic market seemed able to absorb constantly more goods, without either a corresponding increase in selling price, or a corresponding cut in price, so that industrial profits were in proportion to the volume of goods produced.

Conditions are different today. Volume can be absorbed, if at all, only at greatly augmented selling cost, or by price-cutting. We have large experience of the price-cutting; and, under the codes, it is probably taboo. High pressure selling only increases consumer resistance, and consequently the expense. The answer is to be found in market-analysis even more intensive and thorough than the production analysis of the past.

The preparation of code data revealed how little the rank and file of business and industry know about cost-of-production. They know even less about the cost-of-distribution. So long as the market-

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ing machinery functioned, no one cared about its inadequacy and wastefulness. Now, with a market characterized, as Colonel N. B. Gaskell has pointed out, not by absorptive power but by replacement and internal rearrangement, business must seek profits in a new approach to distribution. The consumer, not the producer, is the key to the industrial future.

The need for disinterested technical analysis is the more pressing as the force of trade practice, price, cost, and production provisions of the codes begins to affect the market. The most interesting news of the day is the trade reports which discover these movements. The migration of industry from rural to urban areas in one direction perhaps is balanced in another by a tendency to decentralize through branch offices, warehouses, and regional units. While all quantity and trade differentials are dropped under some codes, the close definition of discounts in other codes is stimulating cooperative buying, and rebuilding the jobber-wholesaler function. Two reasons are given by the Consumers' Advisory Board for this drive to freeze differentials into the codes: first, the desire of the intermediate distributor to operate upon a margin protected by law from the competition of more direct methods of distribution; second, the need for protection against the bargaining strength of large buyers. The Board has sounded a warning against an unconsidered rigidity; differentials have no justification except they be based upon difference in marketing function.

The reordering of quantity discounts has raised the issue of quality. A demand is growing in strength that the codes be amended to include standards of quality. The competition between national and private brand goods threatens to become formidable. At the moment, it is said, there is consumer leaning toward the known quality of national brands; but the price advantage with local brands may presently alter the situation. The danger is, as Colonel Gaskell has suggested, that unbranded merchandise may become so predominant an element in distribution that it will control production. Unbranded goods have no uniform standards of quality. Absorption of consumer demand by such low-priced, low-profit merchandise, makes for market instability and entails also a general unbalancing of production. The side of the market which responds to quality, is all too often overlooked. Likewise, it is often forgotten that production balanced between quality and cheapness brings the higher average price.

Customer selection is another division of distribution cost requiring accounting analysis. Few business men have bothered to distinguish the various layers in their market with a view to tapping only those most profitable. Few have cared to weigh large and small orders with an eye to the relative burden upon inventory control, financing costs, salesmen's expense, bookkeeping requirements, and all other operating expense accounts. The element of good-will must be appraised from another angle. For years, many banks cultivated a multitude of small accounts without, apparently, any attempt to analyze the cost of handling such business. When they awoke suddenly to the unprofitableness of the small accounts they had been so eager to bring into the fold,—when, in short, they applied cost accounting to their deposit business,—and began to charge accordingly, it is quite possible they injured themselves more in the public mind than they saved in expense. Certainly, it was a startling revelation to the man in the street that some banks had not known the cost of doing business.

CHAPTER NOTES

Cost-of-distribution is an untrod field of opportunity for the accountant to whom his profession is more than a routine analysis of certain figures and relationships. Even cost-of-production data gain in significance when related to the market. Tendencies toward monopoly have less bearing upon production than upon the market. The wastes of distribution have never been dissected item by item. Excessive merchandising effort, excessive advertising, trade abuses, too many distributors—are only ideas until cost-analyzed in relation to a particular situation. Unscientific management is a fact without point until distribution cost accounting reveals whether it is a lack of coordination of production and marketing, lack of forecasting, lack of standardization and budgeting, lack of research, of personnel, or failure to establish sound trade relations. The accountant holds the key to these problems of business engineering.

CHAPTER NOTES

TORONTO

Reported by W. A. McKague, General Secretary

Following the executive meeting of Toronto Chapter in June, the program committee has made tentative arrangements for early meetings of the season.

The first regular event is to be a combined plant visit, dinner and discussion, and social evening—all for the usual cost of the dinner meeting. This stupedous event is to be at the plant of the Hinde & Dauche Paper Co. of Canada, Ltd., Toronto, which has one of the largest and most modern paperboard and box factories in Canada. The date will be September 25th. Members will see the plant in operation from 4 to 5 p.m., have dinner in the company's cafeteria about 5.30, and then there will be a discussion of processes and costs in the industry, which is being undertaken by Geo. F. Mayhew who represents the company in our Society, and by others of his firm. We hope then to continue with a social evening, to further increase acquaintance among our members. The writer attended a meeting of another organization at the Hinde & Dauche plant last spring, and can vouch for the excellence of the quarters and the fare.

Then, on October 12th, we expect to have another meeting of very high calibre. Toronto had in mind getting one of the prominent speakers from the United States for its opening. On this point we consulted with George Houston, our immediate past president, who attended the convention of the National Association of Cost Accountants in Cleveland last June and who therefore knows some of their prominent speakers, and he strongly recommended Dr. Corwin D. Edwards, of the National Recovery Administration, Washington. Dr. Edwards is much in demand, and we have been fortunate in catching him, at least tentatively, just prior to his date for addressing a large meeting at Erie, Pa. We hope to have him here on Octo-

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ber 12th, to give us the inside of the NRA. We can rely on our members to keep this date open.

Before the end of September, Toronto's program for the season should be completed and printed.

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THE TREND OF PRODUCTION COSTS

Commodity prices as measured by The Dominion Bureau of Statistics index number, which is based on the year 1926, declined from 72.1 in June to 72.0 in July. The following is a comparison by main groups:

	1933 July	1934 June	1934 July
Foods, beverages and tobacco	67.7	69.5	69.2
Other consumers' goods	75.2	77.5	77.0
All consumers' goods	72.2	74.3	73.9
Producers' equipment	84.8	89.2	89.6
Building & construction materials	80.8	84.1	83.3
Manufacturers' materials	65.2	63.7	64.2
All producers' materials	67.5	66.7	67.0
All producers' goods	69.2	69.0	69.3
All commodities	70.5	72.1	72.0

The principal advances in July were in the following: Grains, flour and milled products, eggs, raw cotton, crushed stone, asbestos. The principal declines in July were in: Fresh fruits, furs, hides & skins, live stock, milk and its products, artificial silk products, raw wool, wool yarns, wool cloth, scrap iron, brass and copper products, clay and allied material products, coal tar products.

